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Confirmation No. 4801

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants:	Roby et al.	Examiner: J. D. Anthony
Serial No.:	10/674,643	Group: Art Unit 1714
Filing Date:	September 30, 2003	Docket: T-6172 (538-52)
For:	ENGINE OIL COMPOSITIONS	Dated: February 4, 2008

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S REPLY BRIEF

Sir:

In response to the Examiner's Answer mailed December 4, 2007, Appellants respectfully submit that based on at least the arguments provided in the Appeal Brief of July 31, 2007, appealed Claims 1-31 are patentable over the applied references. The following comments are respectfully submitted in order to address statements made in the Examiner's Answer.

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8 (a)

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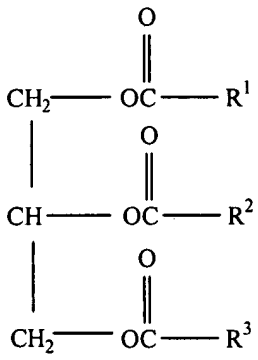
Dated: February 4, 2008

Michael E. Carmen

First, appellants respectfully disagree with the Examiner's statement regarding appealed Claims 1-12, 15, 18-23 and 26-31 in section (10) on pages 6 and 7 of the Examiner's Answer that:

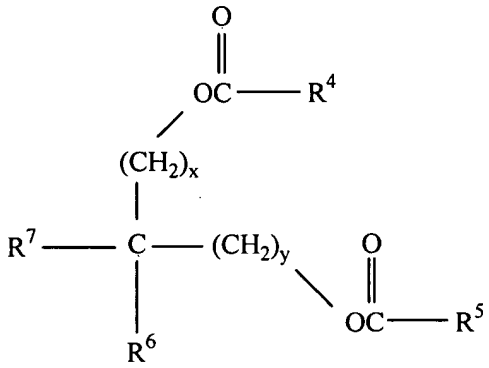
> "... the Examiner holds that applicant's claims are deemed to be anticipated over Example 4 wherein a model is constructed for the transesterification of IMC-130 oil (canola oil) and TMPTH (trimethylolpropane triheptanoate) as shown in FIG. 3. A review of FIG. 3 clearly shows that at lower concentrations of TMPTH reactant (lower than about 15%), the concentration of the **transesterfied reaction product** of IMC-130 oil and TMPTH is in a minor amount compared to the concentration of the **unreacted** IMC-130 oil which would be in a major amount. Under these circumstances, applicant's claims are deemed to be clearly anticipated.
>
> Furthermore in response to applicant's said quote, the Examiner wholly disagrees with applicant's contention that the unreacted IMC 130 canola oil would not read on applicant's major amount of a base oil of lubricating viscosity as alleged by the Examiner. As pointed out previously, applicant's own specification clearly teaches that applicant's component (a), a base oil of lubricating viscosity, can be selected from 'natural lubricating oils, synthetic lubricating oils and mixtures thereof'. Applicant's specification further discloses that: 'Useful natural oils include **vegetable oils** (e.g., rapeseed oils, castor oils and lard oil)', see page 11, lines 8-9 and page 11, lines 18-21 of applicant's specification. Since, Kodali et al's **unreacted** IMC-130 **canola oil** of Example 4 as shown in FIG. 3, is a vegetable oil, and vegetable oils are taught by applicant to be within applicant's claimed component (a), applicant's said contention is deemed by the Examiner to be mistaken." [Original Emphasis]

The Examiner's reliance on Example 4 and Figure 3 of Kodali et al. is entirely misplaced. Example 4 and Figure 3 completely fail to disclose the lubricating oil composition of appealed Claim 1, which comprises "(a) a major amount of a base oil of lubricating viscosity and (b) a minor deposit-inhibiting effective amount of a reaction product prepared by transesterifying at least one glycerol ester with at least one non-glycerol polyol ester." Example 4 and Figure 3 also completely fail to disclose the lubricating oil composition of appealed Claim 15, which comprises "(a) a major amount of a base oil of lubricating viscosity and (b) a minor deposit-inhibiting effective amount of a reaction product of at least one first polyol ester of the general formula:



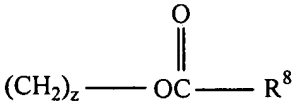
(I)

wherein R^1, R^2 and R^3 are independently aliphatic hydrocarbyl moieties having 4 to about 75 carbon atoms; and at least one second polyol ester of the general formula:



(II)

wherein x and y are the same or different and are integers from 1 to 6, R^4 and R^5 are independently aliphatic hydrocarbyl moieties having 4 to 24 carbon atoms and R^6 and R^7 are independently hydrogen, an aliphatic hydrocarbyl moiety having 1 to 10 carbon atoms or



wherein z is an integer from 0 to 6 and R^8 is an aliphatic hydrocarbyl moiety having 4 to 24 carbon atoms."

As previously explained in the Appeal Brief, Example 4 in Kodali et al. only discloses the *reaction product* prepared by transesterifying IMC 130 canola oil with trimethylolpropane triheptanoate (TMPTH). This is clearly set forth in column 10, lines 58-63 of Example 4 in Kodali et al., which states "[a] statistical model based on a random distribution was developed to determine how the long chain fatty acids of IMC 130 oil TAGs (triacylglycerols) and the short chain fatty acids of the non-glycerol ester would be distributed when short chain fatty acid esters were transesterfied with IMC-130 oil at different concentrations." Figure 3 was simply

included to show the results of the model as a graph of the predicted fatty acid distribution of the TAGs of TMPTH and IMC-130 transesterified products at different concentrations. Kodali et al. goes on to state in Example 4 that transesterifying about 20 to 25% TMPTH by weight with IMC-130 oil yields a large number of TAGs with one short chain, and modifies *over 70%* of the original TAGs found in IMC-130. The Examiner is therefore oversimplifying Kodali et al. by trying to conclude that transesterifying 15% TMPTH by weight with IMC-130 oil would yield a major amount of canola oil. Figure 3 certainly provides no basis for this conclusion. Besides, the primary goal of Kodali et al. is to improve the lubrication properties of a vegetable oil by transesterifying the vegetable oil with a short chain fatty acid ester.

There is therefore no disclosure in Kodali et al. of adding a minor deposit-inhibiting effective amount of the reaction product prepared by transesterifying IMC 130 canola oil with TMPTH of Example 4 disclosed therein to a major amount of a base oil of lubricating viscosity to form a lubricating oil composition. Rather, after forming the reaction product prepared by transesterifying IMC 130 canola oil with TMPTH, the oils thus prepared can be formulated with one or more additives (see column 7, lines 53-56 in Kodali et al.). The law is clear that for a claim to be anticipated, a single prior art reference must disclose each and every element of the claimed invention. *Lewmar Marine, Inc. v. Barient, Inc.,* 827 F.2d 744, 747, 3 USPQ2d 1766, (Fed. Cir. 1987). Thus, since essentially the only thing Kodali et al. has in common with the appealed claims is a reaction product prepared by transesterifying, for example, a vegetable oil such as canola oil with TMPTH, Kodali et al. cannot possibly anticipate the lubricating oil compositions of the appealed claims. Accordingly, the Examiner's position is untenable and in contrast to Federal Circuit precedent.

There would also be no motivation to modify the transesterfied oil of Kodali et al. and arrive at the claimed lubricating oil compositions. As previously stated, the primary goal of Kodali et al. is to improve the lubrication properties of a vegetable oil by *transesterifying the vegetable oil* with a short chain fatty acid ester. Thus, one skilled in the art would not look to the disclosure of Kodali et al. to form the claimed lubricating oil compositions containing (a) a major amount of a base oil of lubricating viscosity and (b) a minor deposit-inhibiting effective

amount of the recited reaction product. Instead, one skilled in the art would be led away from the disclosure of Kodali et al.

For the foregoing reasons, the Examiner has failed to show that all of the recitations of appealed Claims 1-12, 15, 18-23 and 26-31 are taught or suggested by the prior art. Accordingly, appealed Claims 1-12, 15, 18-23 and 26-31 are not rendered unpatentable by Kodali et al. and are therefore allowable.

Second, appellants respectfully disagree with the Examiner's statement regarding appealed Claims 1-31 on pages 5 and 6 of the Examiner's Answer that:

> "It would have been obvious to one of ordinary skill in the art to use the direct teaching of the secondary reference to Kodali et al. as strong motivation to actually use Kodali et al.'s transesterfied product in lieu of or in addition to the transesterfied products disclosed by Lai for the benefits that these oxidative stable transesterfied products are taught to have. To use the transesterfied products, as taught by the Kodali et al. secondary reference, within all of applicant's claimed concentration ranges, is also deemed to be obvious since the secondary reference to Kodali et al. directly discloses these concentration ranges, including those of dependent claims 13-14 and 24-25 (when very low concentrations of TMPTH reactant are used in the transesterifying reaction), see Example 4 wherein a model is constructed for the transesterfication of IMC-130 canola oil and TMPTH as shown in FIG. 3."

Lal discloses environmentally friendly, biodegradable, base fluids containing a high monounsaturated vegetable oil and esters of transesterified natural oils with a monoalcohol. Lal further discloses that the drawback of using the transesterified esters in combination with high monounsaturated vegetable oils is the difficulty with congelation of this mixture at low temperatures (less than -10°C.). Thus, in order to maintain the "pour" or "flow" of this mixture, a pour point depressant is added to the oil.

Kodali et al. do not cure the deficiencies of Lal. The primary goal of Kodali et al. is to improve the lubrication properties of a vegetable oil by transesterifying the vegetable oil with a short chain fatty acid ester. Kodali et al. further disclose that suitable vegetable oils are those having a monounsaturated fatty acid content of at least about 50%. Example 4 in Kodali et al.

simply discloses the *transesterified vegetable oil* prepared by transesterifying IMC 130 canola oil with TMPTH. Thus, Kodali is concerned with replacing the vegetable oil with the transesterified vegetable oil and not adding the transesterified vegetable oil to a vegetable oil. In fact, Example 5 of Kodali et al. characterizes the oxidative stability of the transesterified oil products as compared to the starting vegetable oil. The Examiner's reliance on Example 4 and Figure 3 of Kodali et al. is therefore entirely misplaced.

Once the objective of Kodali is understood, it is quite readily appreciated that it would not be obvious to use the transesterified vegetable oil disclosed in Kodali et al. in lieu of or in addition to the ester of transesterified natural oils disclosed in Lal. In contrast, one skilled in the art would simply look to replace the high monounsaturated vegetable oil disclosed in Lal with the transesterified vegetable oil disclosed in Kodali et al. since this is the very teaching of Kodali et al. Certainly, then, one skilled in the art would not even arrive at the presently recited lubricating oil compositions set forth in the appealed claims by combining the disclosures of Lal and Kodali et al.

Furthermore, the combination of Lal and Kodali et al. would not arrive at the lubricating oil composition wherein the base oil of lubricating viscosity is comprised of a mineral base oil as presently recited in appealed Claim 16. Nor would the combination of Lal and Kodali et al. arrive at the lubricating oil composition wherein the base oil of lubricating viscosity is comprised of a polyalphaolefin base oil as presently recited in appealed Claim 17. In contrast, Lal discloses that the optional mineral oil or polyalphaolefin oil are used in the compositions in a minor amount and not in a major amount as recited in appealed Claim 15 from which appealed Claims 16 and 17 ultimately depend. Thus, even by combining the disclosures of Lal and Kodali et al., one skilled in the art would arrive at the lubricating oil compositions as presently recited in appealed Claims 16 and 17.

Therefore, the Examiner has failed to make out a *prima facia* case for an obviousness rejection. Accordingly, appealed Claims 1-31 are not rendered unpatentable by the combination of Lal and Kodali et al. and are therefore allowable.

Please charge any deficiency as well as any other fee(s) which may become due under 37 C.F.R. §§1.16 and/or 1.17 at any time during the pendency of this application, or credit any overpayment of such fee(s) to Deposit Account No. 50-3591. **TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.**

Dated: February 4, 2008

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